

AMENDMENTS TO THE CLAIMS:

Please amend claims 1, 8 and 10 as set forth below.

This listing of claims will replace all prior versions and listings of claims in the Application:

Claim 1 (currently amended): A reproduced signal equalizing method for optical information media in which reproduced signals obtained by irradiating laser light to an optical information medium are equalized so as to bring a waveform thereof close to a waveform having a predetermined characteristic, the method comprising the steps of:

- sampling reproduced signals in a predetermined cycle;
- calculating an equalization coefficient for producing a smallest difference between a target waveform and an equalized waveform by the least square technique by using a matrix calculation and 3000 or more of sampled waveform data; and
- equalizing reproduced signals by using the calculated equalization coefficient.

Claim 2 (cancelled).

Claim 3 (previously presented): A reproduced signal equalizing method for optical information media according to claim 1, the method further comprising the steps of:

- inputting the reproduced signals sampled in the predetermined cycle to a Viterbi decoder; and
- defining said target waveform as a waveform based on binarized data demodulated by the Viterbi decoder and a partial response waveform.

Claim 4 (previously presented): A reproduced signal equalizing method for optical information media according to claim 3, wherein a partial response value is used as the partial response waveform.

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Claim 5 (original): An optical information reproducing apparatus having a function for equalizing reproduced signals by using a reproduced signals equalizing method according to claim 1.

Claim 6 (original): A signal quality evaluating method, comprising the steps of:

equalizing reproduced signals by using a reproduced signal equalizing method according to Claim 1; and

evaluating quality of the reproduced signals from the equalized reproduced signals and binary identification data.

Claim 7 (original): A writing condition adjusting method, wherein a recording condition is adjusted based on an evaluation result of a signal quality evaluation method according to claim 6.

Claim 8 (currently amended): A reproduced signal equalizing method for optical information media in which reproduced signals obtained by irradiating laser light to an optical information medium are equalized so as to bring a waveform thereof close to a waveform having a predetermined characteristic, the method comprising the steps of, in order to read out information recorded on the optical information medium:

equalizing 3000 or more of samples of the reproduced signals by using a predetermined initial filter coefficient and generating a first equalized signal;

identifying the first equalized signal by using a Viterbi decoder and obtaining a provisional identification result therefrom;

generating a target signal from the provisional identification result and a predetermined partial response waveform;

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calculating a filter coefficient for producing a small difference between the target signal and the reproduced signals about the ~~predetermined number of~~ 3000 or more samples;

equalizing the reproduced signals by using the calculated filter coefficient and generating a second equalized signal; and

identifying the second equalized signal by using the Viterbi decoder.

Claim 9 (previously presented): A reproduced signal equalizing method for optical information media according to claim 8, wherein the number of samples is selected from 3,000 to 10,000.

Claim 10 (currently amended): A reproduced signal equalizing method for optical information media in which reproduced signals obtained by irradiating laser light to an optical information medium are equalized so as to bring a waveform thereof close to a waveform having a predetermined characteristic, the method comprising the steps of, in order to calculate an equalization coefficient for an equalizer used for reproducing binary signals recorded on the optical recording medium:

equalizing 3000 or more samples of the reproduced signals by using a predetermined initial equalization coefficient and generating a first equalized signal;

identifying the first equalized signal by using a Viterbi decoder and obtaining a provisional identification result therefrom;

generating a target signal from the provisional identification result and a predetermined partial response waveform; and

calculating an equalization coefficient for producing a small difference between the target signal and the reproduced signals about the ~~predetermined number of~~ 3000 or more samples.

Claim 11 (previously presented): A reproduced signal equalizing method for optical information media according to Claim 10, wherein the number of samples is selected from 3,000 to 10,000.

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